User's Manual

TRX742

Digital Recording Transmitter for Boom

Firmware v8.19
Release Date: May 2013

Zaxcom Digital Wireless is protected under patent #'s: 7,711,443 & 7,929,902

NOTE: All specifications in this manual are subject to change without notice.

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Overview

The TRX-742 is a plug-on style digital wireless microphone with interchangeable cones to support all professional microphone varieties – mono analog, stereo analog, AES and AES42 – making it an ideal choice for wireless transmission from boom poles or directly from handheld dynamic microphones.

The TRX-742 comes standard with a built-in backup recorder, timecode reader / generator and the ability to receive timecode and remote control commands via the IFB100, Nomad, and/or ZaxNet. Its body is constructed from a combination of high strength nylon polymer and aluminum.

The **TRX-742** is powered by 3 AA batteries. The power output is user selectable at 25, 50 or 125mW. The **TRX-742** can utilize the battery saving feature **PowerRoll™** (part of **ZaxNet**). **PowerRoll™** automatically adjusts the transmitter output power based on the record status as sent via **ZaxNet** boosting it up to 125 mW while rolling and powering down to 50 mW while on standby.

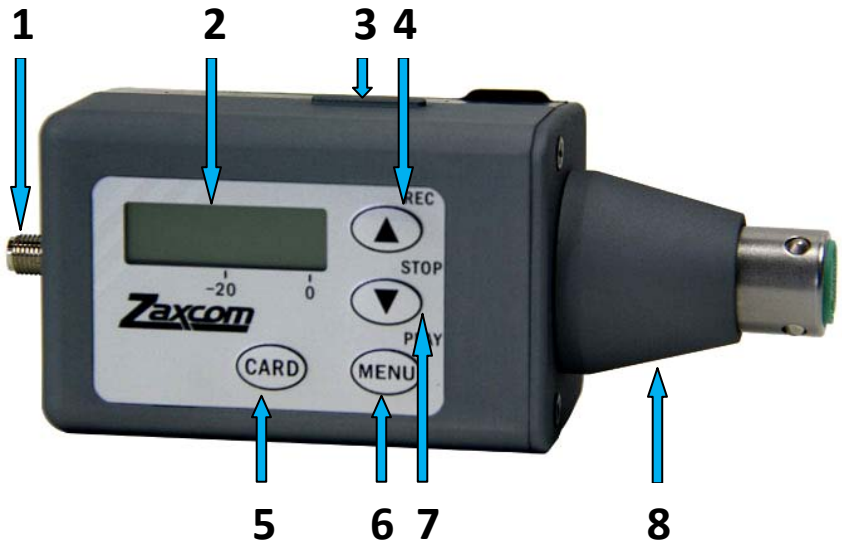
The **TRX-742** works with ZaxNet, Zaxcom's 2.4-GHz RF network that enables the distribution of remote control signals, timecode, IFB audio, and metadata. With ZaxNet, one can remotely control gain settings change frequencies, and replay audio via a timecode reference giving production sound mixers the ability to replay and remix audio, creating a virtual multi-track playback and re-record system.

NeverClip (Patent Pending) is a dual A-D preamp system that provides extended dynamic range of 127 dB. **NeverClip** combined with Zaxcom's soft knee compressor and digital hard wire quality transmission provides a level of audio quality not found in any other plug on transmitter.

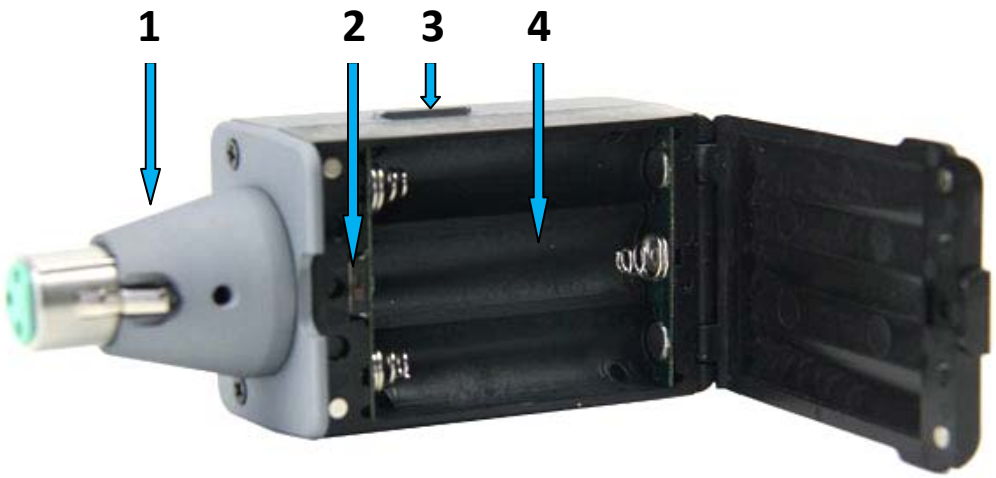
System Features

- **NeverClip™** with 127 dB dynamic range
- Built-in 2.4 GHz receiver, receives timecode and remote control signals from **ZaxNet**, **IFB100 o**r **NOMAD**
- Superb audio quality that rivals a hardwired microphone
- Variable power output, up to125 mW
- 48 V phantom power
- Fault tolerant broadcast quality recording
- Digital modulation wireless transmission with digital drop-out protection
- Audio recording and transmission at 24 bits/48 kHz
- 96 hours of audio directly on a 16 GB removable card with TC stamp
- Supports both record/stop and continuous loop recording
- Backlit graphic liquid crystal display
- Frequency selectable highpass filter
- Selectable peak limiter
- Lightweight rugged design
- Integrated TC reader/generator accurate to 1 frame in 6 hours
- Integrated & encrypted IFB channel in wireless transmitter
- Integrated timecode reception
- RF remote control:
  - Audio gain (Raise/Lower)
  - Recording (Record/Stop/Playback)
  - Transmitter power (On/Standby)
  - Remote frequency change

Knowing your TRX-742



1. **SSMA Antenna Connector**
2. **LCD Display**
3. **Media Slot**
   To insert a card, with the screen facing you, turn the card so the finger contacts are facing you and down toward the slot. Insert it into the slot and press it down until you here a slight click. To remove it, press it in until you hear the same click again.
4. **INC / Record Key**
   - Increases the parameters of a menu item.
   - When in the Home Screen pressing ***INC*** with the ***CARD*** key will put the TRX-742 into record.
   - When in the Transport Control Screen while not recording will cause the TRX-742 to play back.
   - Press it while playing back to fast forward.
   - Press and hold while in the Transport Control Screen to advance to the next segment.
   - Press it in the Home Screen to display the current segment number.
5. **Card Key**
6. **Menu / Play Key**
   - Press it to access the next menu.
   - Pressing it while powering up will take you into the **Extended Menu.**
   - Press it with the Card Key to Playback a segment
7. **DEC / Stop Key**
   - Decreases the parameters of the menu items.
   - When in the Home Screen pressing ***DEC*** with the ***CARD*** key will stop the recording.
   - When playing back from the Transport Control Screen will cause the TRX-742 to stop.
   - Press and hold while in the Transport Control Screen will jump back to the previous segment.
   - Holding it while playing back will take you to the start of that segment.
   - Pressing it in the Home Screen will display the battery voltage.
8. **Interchangeable Input cone -** Available cones:
   - Mono Analog – 3-Pin XLR
   - Stereo Analog – 5-Pin XLR
   - AES (not powered) – 3-Pin XLR
   - AES42 (powered) – 3-Pin XLR



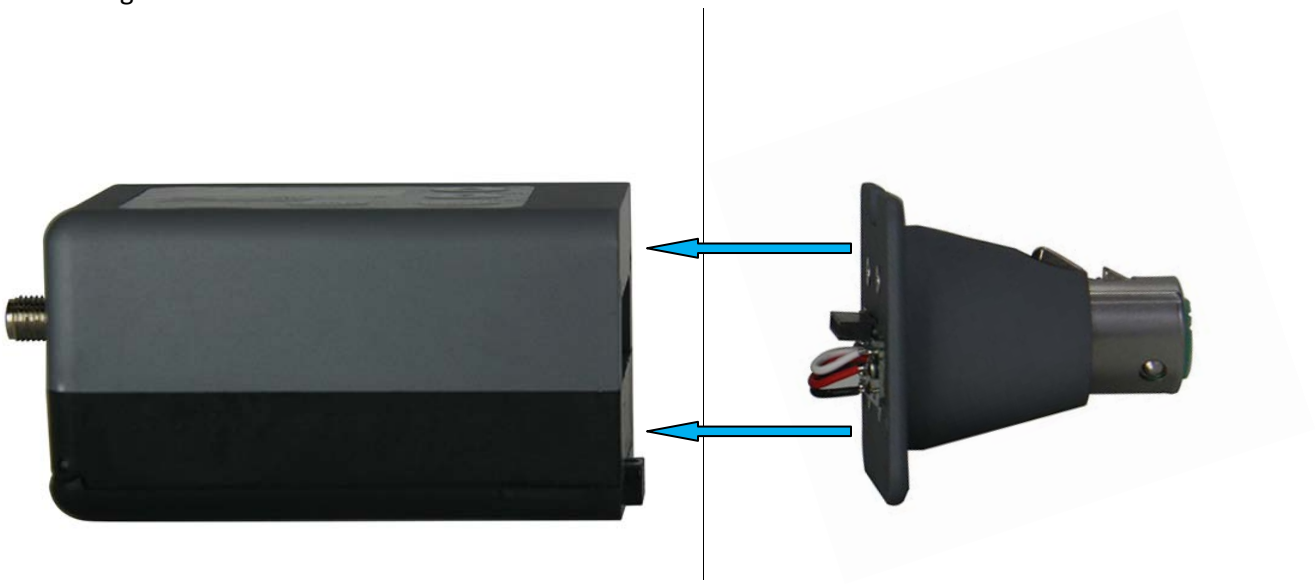
1. **Interchangeable Cones**
2. **Power Switch**
3. **Media Slot**
4. **Battery Compartment**

Attaching the Input Cone

The Input cone will slide straight on to the base and will get fastened with two screws.

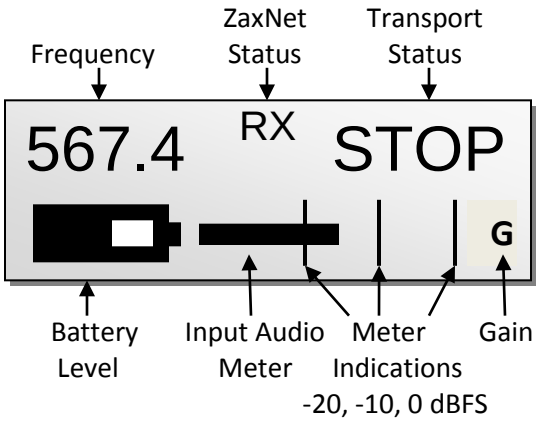
To attach the cone:

- Line up the two screw holes on the cone with the holes on the base.
- Push the cone firmly in place so that the multi-pin connector engages.
- Tighten the two screws.



Fastening Screws

Home Screen



Frequency – Displays the transmit frequency of the TRX-742.
If the TRX-742 is being used in **RECORD ONLY** mode "**NOTX"** will be displayed.

ZaxNet Status

- **RX** – The TRX-742 is set to receive ZaxNet timecode and commands.
- **TX** – The TRX-742 is transmitting ZaxNet timecode and audio.

Transport Status - Displays the current mode of the unit

- **STOP** – Recording / Playback is stopped
- **LREC** – TRX is recording and LOOP RECORD mode is enabled
- **REC** – TRX is recording and NON-LOOP RECORD mode is enabled
- **WAIT** – May appear just before going into record, or if the card is ejected while recording.

Input Audio Meter- Displays the modulation of the inputted audio signal. If the TRX-742 was receiving a stereo signal you would see both the left and right audio levels.

Gain - ***"G"*** Appears when the TRX-742 is receiving change of gain commands via ZaxNet**.**

When in the home screen:

- Press and hold the **INC** key to display the number of record segments are on the card. Note that regardless of the size of the card it is limited to 256 segments.
- Press and hold the **DEC** key to display the current battery voltage

Main Menu

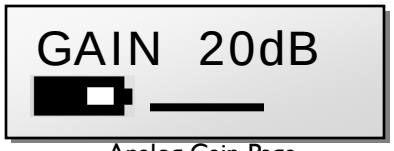
Navigating the Main Menu

- Press the MENU Button to enter the menu.
- To advance to the next menu press the MENU Button again.

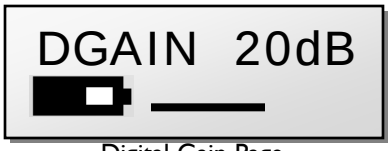
Exiting the Main Menu

- To exit the menu at any time press and hold the MENU button for 1.5 seconds

Audio Gain



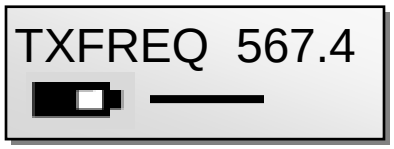
Analog Gain Page



Digital Gain Page

This menu sets the gain of the incoming audio. If you are using a digital cone you will be controlling the gain digitally. The meter indicates the audio signal displayed horizontally from left to right.

UHF Transmit Frequency



This menu sets the UHF transmit frequency of the TRX-742.

- Short presses of the ***INC*** or ***DEC*** *key* causes the value to change by 0.1 MHz.
- Holding the ***INC*** or ***DEC*** *key* causes the value to change by 0.5 MHz.

Transport Control

This page displays the transport status of the TRX-742.

The top line displays the current mode: **REC**, **PLAY** or **STOP** followed by the timecode.
The bottom line contains the segment number and the audio level.

Playing back from the transport screen

- Pressing the **INC** key while stopped will play the segment that is displayed.
- Pressing the **INC** key while in play mode will fast forward.
- Pressing the **DEC** key while playing back will stop the playback.
- Holding the **DEC** key while playing back will take you to the start of that segment.
- Pressing the **DEC** key while stopped will rewind.

Timecode Frame Rate

This menu sets the timecode frame-rate that will be recorded.
The TRX-742 will lock to and record all standard Timecode frame rates.

- ***23.98, 24, 25, 29.97DF, 29.97DF, 30 DF, 30 NDF***

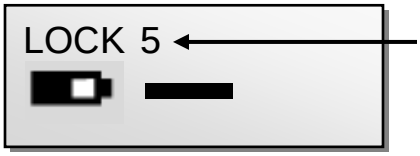
Phantom Power

This menu will turn ON / OFF 48 volts of phantom power supplied to the connected microphone.

Time Left

This page displays the remaining time left on the card and the time already recorded on the card.

Lock Page



Countdown clock starting at 5 seconds

After the TRX-742 locks

This page enables a lock function to prevent any accidental changes.
When you land on this page the countdown clock will begin. After 5 seconds the TRX-742 will lock and the display will indicated **LOCKED**.
If you exit this screen before the 5 seconds is up the TRX-742 will not lock.

Even though the key's will be locked you can press the ***INC*** or ***DEC*** *key* to temporarily display the current battery voltage in place of the battery icon.

To Unlock

- Simultaneously press the ***MENU*** and ***INC*** *keys*.
  Or
- Powering down the unit will also clear the lock

Extended Menu

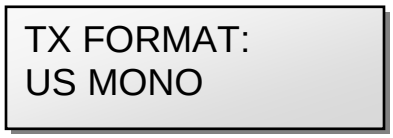
Navigating the Extended Menu

- Press and hold the ***MENU*** *key* while powering up the unit.
- Pressing the ***MENU*** key will advance you to the next menu item.

Exiting the Extended Menu

- Cycle the power
  Or
- Hold down the ***MENU*** *key* to get back to the EXTENDED MENU home page then press the ***INC*** *key*.

UHF Signal Format



This menu adjusts the transmission format

- **US MONO -** This format is used for mono transmission. It is used by customers in the US and other countries where a 200 kHz channel is legal.
  *This setting will be used with **0=US** on the Zaxcom ENG receiver or **NORMAL** on the QRX*
- **STEREO -**This format is used for stereo transmission of a TRX-742. It is used by customers in the US and other countries where a 200kHz channel is legal
  *This setting will be used with **2=ST** on the Zaxcom ENG receiver or **NORMAL** on the QRX*
- **EUROPEAN** -This format is used for European customers and other countries where a normal width channel is NOT legal.
  *This setting will be used with **1=EU** on the ENG Zaxcom receiver or **NARROW** on the QRX*
- **US MONO-R** -Similar to **US MONO**. This can be used to force mono audio to the right channel.
  *This setting will be used with **0=US** on the Zaxcom receiver*

IMPORTANT: Any change to this page **REQUIRES** a reboot before the new setting takes effect.

IMPORTANT: If the Transmission Format set here and the Reception Format on the associated receiver do not match, the receiver will be unable to correctly decode the audio from this transmitter.

UHF Transmitter Power Level

This menu adjusts the transmit power of the TRX-742.

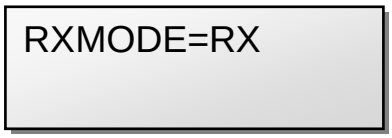
- The TRX-742 can be set at 25, 50 or 125mW

Power Roll

This menu adjusts the Power Roll setting of the TRX-742.
Power Roll will allow the transmitter to stay in a lower transmit power setting to conserve battery power, then when you begin to record the TRX-742 will increase the transmit power.

- **OFF** – Power roll is disabled
- **DIVA TRIGGER** – A command from a Zaxcom recorder will set the TRX-742 to full power.
- **RECORD TRIGGER** – When the TRX-742 goes into record either manually or from **AUTO-LOAD** the TRX-742 will go to full power.

IFB Receive Mode



This menu will allow the TRX-742 to receive ZaxNet commands.

- **OFF** – The TRX-742 will not receive any ZaxNet commands
  *If this is set to **OFF** the next 5 ZaxNet menu items will not appear.*
- **RX**- The TRX-742 will receive ZaxNet commands

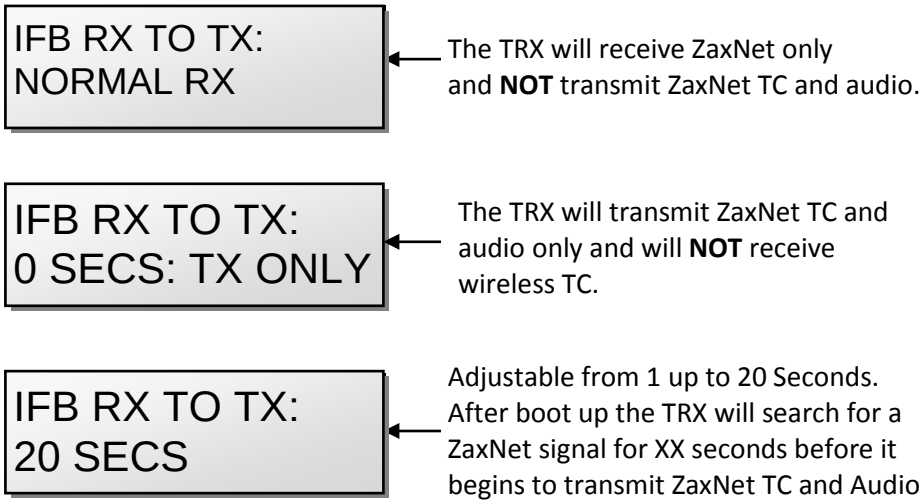
NOTE: If the **IFB RX to TX** setting is set anything other than **Normal** Receive you will not be allowed to set this setting off.

IFB Voting Enable – this menu will not appear if the IFB settings allow the TRX to go into transmit mode.

This menu allows you to enable / disable the IFB Voting function.
The purpose of the voting is to allow the TRX-742 to choose and switch to the stronger signal from two different ZaxNet transmitters. One purpose of this is if you are on a large set you can place a second IFB transmitter at a different location and the TRX-742 will choose the stronger signal. Just set the second IFB transmitting frequency to exactly 2MHz higher than the first unit.

NOTE: This Page only will appear if you have the **IFB RX TO TX** mode set to **NORMAL RX** and **RX MODE** is not set to **OFF.** Meaning that if the TRX-742 IFB will ever be in a transmit mode IFB voting no longer applies and will not be available.

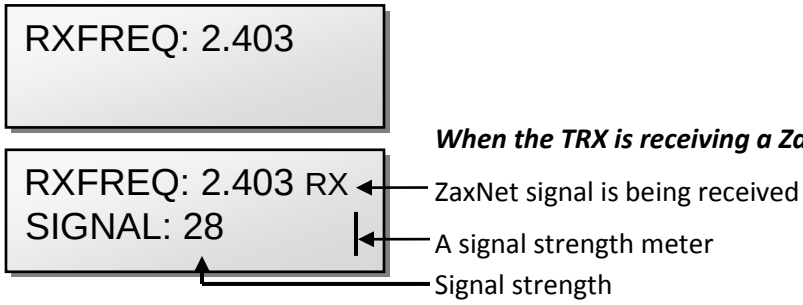
IFB Receive to Transmit time


IFB RX TO TX:
NORMAL RX
The TRX will receive ZaxNet only and **NOT** transmit ZaxNet TC and audio.
IFB RX TO TX:
0 SECS: TX ONLY
The TRX will transmit ZaxNet TC and audio only and will **NOT** receive wireless TC.
IFB RX TO TX:
20 SECS
Adjustable from 1 up to 20 Seconds. After boot up the TRX will search for a ZaxNet signal for XX seconds before it begins to transmit ZaxNet TC and Audio

This menu sets how long after power up that the TRX-742 will search for ZaxNet timecode before it begins transmitting IFB audio for monitoring purposes.

IMPORTANT: After changing this setting a re-boot is required

ZaxNet IFB Receive Frequency


RXFREQ: 2.403
When the TRX is receiving a ZaxNet signal you will also see:
RXFREQ: 2.403 RX
SIGNAL: 28
ZaxNet signal is being received
A signal strength meter
Signal strength

This is where you set the ZaxNet receive frequency. This is where you set the ZaxNet receive frequency.

- This frequency is the frequency that the transmitter will receive wireless ZaxNet TC and commands as long as this frequency matches the frequency of the corresponding ZaxNet transmitter - which can be a Nomad or IFB100/200.
- This frequency is the frequency that the transmitter will receive TC from another TRX transmitter or a ZFR recorder as long as this frequency matches the frequency of the corresponding transmitter.

ZaxNet IFB Transmit frequency

IFB TX FREQ:
2.420

This is where you set the ZaxNet transmit frequency. This is the frequency that the transmitter will broadcast timecode and ZaxNet audio on for the purpose of confidence audio monitoring via an ERX receiver or Nomad. Note - the expected range will be less than 30 feet.

IFB Receive Pulse – this menu will only appear if IFB is set to go into transmit mode.

IFB RX PULSE:
NEVER

← The TRX will stay in transmit mode and never go into receive mode.

IFB RX PULSE:
600 SECS

← The TRX-742 will go out of transmit mode every 10 Minutes

Note: *You would need to use this setting if you are monitoring audio via an ERX receiver and you still want the TRX-742 to update TC*

This is where you set how often the TRX-742 will search for Timecode while operating.
When enabled this tells the TRX-742 to leave ZaxNet transmit mode once every XX seconds to go into receive mode so it can re-jam its timecode wirelessly via ZaxNet. This has no affect on the UHF audio transmission.

- The settings are **NEVER** or any interval between **10** and **999** seconds.

NOTE: When the TRX-742 searches for TC it will temporally go out of transmit mode for approximately 1 second as it receives a TC signal.

Power-Up Mode

POWER UP MODE:
LOCKED

This page determines if the keys will lock after power-up.

- **LOCKED** – After power-up has completed, the TRX-742 will automatically go into **Lock Mode** to prevent accidental changes to the settings.
- **UNLOCKED** – The keys are unlocked upon power-up. You can always lock the keys by going in to the **Lock Screen** in the Main Menu.

Unlocking the TRX-742

Simultaneously press the ***MENU*** and ***INC*** *keys*.

Format Recording Card

PRESS UP KEY 5X
TO ERASE CARD

This menu will allow you to erase and format the micro SD card.

IMPORTANT: Even though many cards are sold preformatted, you must format the card in the transmitter prior to recording. Only cards formatted in the unit will work properly.

NOTE: This menu will only appear if a card was inserted prior to booting up. Also if the micro SD card is removed this page will not appear.

To Format a Card:

1. Before formatting the card, you may want to name the transmitter. Naming the card makes it easier to differentiate files from different recorders - for example you can name the card with the talents name. The NAME menu is located at the end of the Extended Menu (page 20 of this manual).
2. With the power 'OFF', insert the memory card into the media slot with the label to the back of the unit. Press it all the way in till it "clicks".
3. Power up the transmitter while holding the Menu key to enter the Extended Menu.
4. Advance to this menu.
5. Press the ***INC*** *key* 5 times.
6. You will see ***"FORMATTING FAT 32"***
7. The TRX will displays "**SUCCESS"** or "**FORMAT FAILED ERROR"**
8. If **"SUCCESS"** appears power cycle the TRX and make sure the unit will record.

NOTE: If you see a "**FORMAT FAILED ERROR**" try to re-format the card and if it fails again **DO NOT** use that card in the transmitter.

Time Code Jam Mode

TC JAM MODE:
AUTO-JAM

If you are using record run timecode this menu controls weather the TRX-742 will go into record when it receives running timecode.

- **AUTO-JAM** – The TRX-742 will continuously jam timecode via ZaxNet.
- **AUTO-LOAD** – The TRX-742 will continuously jam timecode via ZaxNet and will start and stop the recording if the TRX-742 is receiving record run timecode.
  In this mode the TRX-742 will go into record mode when the TRX-742 detects rolling timecode. And the TRX-742 will stop when the timecode stops. If the timecode is lost because the IFB signal is too weak the unit will not stop but will continue in whatever state it was in until the timecode signal gets restored.

Time Code Source

TC SOURCE:
IFB (RF)

This menu selects how the TRX-742 will receive its timecode.

- **IFB (RF)** – The TRX-742 will receive timecode via ZaxNet being broadcast from Nomad, an IFB100/200, another TRX transmitter or a ZFR recorder.
- **AUDIO INPUT**– The TRX-742, with a proper cable, will receive timecode via the microphone input.

When timecode is connected, it takes the TRX approximately three seconds to recognize the TC. The screen displays **TIME CODE** followed by **JAM** when it is recognized. When the word **JAM** disappears, the timecode input source can be disconnected and normal operation can be resumed.

NOTE: When using the mic input connector, the audio level of the timecode signal needs to be between -30 and -10 dBFS on the unit's meter. Any level above -10 may cause clipping, which will prevent proper reading of timecode.

Group ID

REMOTE CONTROL
GROUP ID = 1

This allows you to set your TRX-742 to a "**GROUP**" to be controlled via ZaxNet.
So for example a transmitter set to Group 1 will control all Group 1 receivers and a Group 2 transmitter will control all Group 2 receivers. This allows you to control a group of receivers without affecting others. This will also help if two or more people on set are sending ZaxNet commands each person will be independent and won't interfere with each other. Most users leave this set to 1 on all of their Zaxcom Products.

Group codes can be set from **1** to **99**

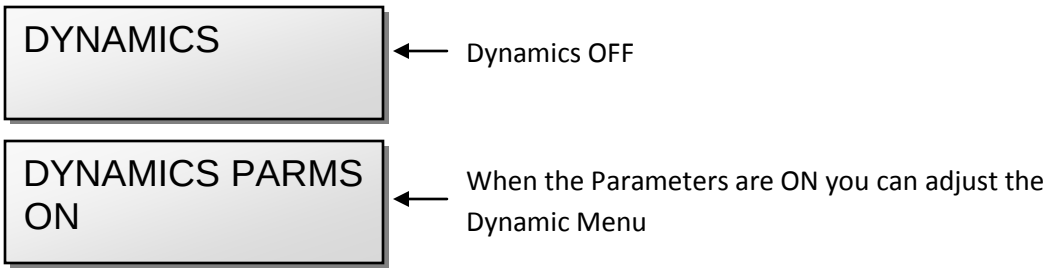
Unit ID

REMOTE CONTROL
UNIT CODE=ALL

This assigns a unique number identify the TRX-742 unit within a particular group. This allows individual devices in one group to be independently controlled.

You can assign a number from **1** to **200**

Dynamics



The Dynamics is a soft knee compressor that is located after the analog to digital converter. The Dynamics will limit the dynamic range to prevent clipping during occurrences of loud audio. Dynamics is comprised of both a compressor and an expander, which operate jointly. The Compressor in Dynamics can set to mild or extreme compression and features a soft knee for more transparent operation.

To enter the Dynamics Menu

Press the ***INC*** or ***DEC*** *key* - "**PARMS**" will be displayed on the right.
To move to the next parameter, press the ***MENU*** *key*.
To exit this page, hold the ***MENU*** *key* for 1 second.

Dynamics Parameters

- **PARMS**(Parameters): **OFF** / **ON:** This turns the entire compressor/expander on or off.
- **Link L-R: OFF** / **ON:** This links the left and right of a stereo unit. So if one side of the signal needs compressing / expansion the other side will kick in to match.
- **SPEED** (Decay Speed) **: SLOWEST** / **SLOW** / **NORMAL** / **FAST** / **FASTEST**
  Sets the speed in how gradual the decrease of signal level happens immediately after a signal reaches its peak. This is typically set to **FAST**.
- **ATTACK** (Attack Speed) **: SLOWEST** / **SLOW** / **NORMAL** / **FAST** / **FASTEST**
  Sets the speed in how fast the gain is turned down once the signal exceeds the threshold setting. This is typically set to **FAST**.
- **CMP RATIO** (Compressor Ratio)**:** Valid range: **1.0:** to **5.0:1**, In **0.1** steps**.**
  The amount of gain reduction is determined by the **ratio** setting.
  A compressor ratio for example of 2.0:1 means for every 1 dB above the compressor threshold the gain will be reduced 2 dB. A higher ratio setting makes the compressor more aggressive.
- **CMP THRESH** (Compressor Threshold): Valid range: **0** to **–96dB**, in **1dB** steps.
  Sets the level which gain reduction occurs. This is typically set to -12dB from full scale.
- **CMP KNEE:** (Compressor Soft Knee): Valid range: **0** to **20dB**, In **1dB** steps.
  Sets the compressor's soft knee. A soft knee reduces "softens" the audible change from uncompressed to compressed, especially for higher ratios where the changeover is more noticeable
- **EXP RATIO** (Expansion Ratio)**:** Valid range: **1:1.00** to **1:4.00**, In **0.01** steps
  Sets the expansion ratio. For example a1:2.0 expansion ratio means for every 1 dB below the expansion threshold the gain will be reduced 2 dB.
- **EXP THRESH** (Expansion Threshold)**:** Valid range: **0** to **–96dB**, in **1dB** steps.
  Sets the threshold above which gain reduction occurs. This is typically set to -80dB.
- **REDUCE** (Expander Gain Reduction)**:** Valid range: **0** to **–36dB**, in **1dB** steps.
  Sets the limit on the amount of gain reduction caused by the expander. This is typically set to -6dB.
- **GAIN** (Make-up Gain)**:** Valid range: **0** to **30dB**, In **1dB** steps.
  Used to compensate for the gain reduction caused by the action of the compressor. Because the compressor is reducing the gain (or level) of the signal, the ability to add a fixed amount of *make-up gain* at the output is provided so that an optimum level can be used.

Phantom Power

PHANTOM POWER:
OFF

This menu will turn ON / OFF 48 volts of phantom power supplied to the connected microphone.

Battery Type

BATTERY TYPE:
NIMH QRX

This menu adjusts the battery type you are using so the receiver can properly display the remaining battery capacity.

- The settings are NIMH, Lithium and Alkaline (Displayed as " - - - -")

NOTE: In the menu you will see "**ENG**" and "**QRX**" options for these battery types as well. This is so each type Zaxcom receiver "ENG" RX-900 or QRX-100 can correctly display the transmitters battery level.

Recording Mode

RECORD MODE:
LOOP RECORD

This adjusts what the TRX-742 will do after you reach the record capacity of the card.

- **NON-LOOP RECORD** (recommended) - Once the card has filled up, recording will stop and **FULL** will be displayed. This prevents over-writing any portion of the audio.
- **LOOP RECORD** - Once the media has filled up, the new audio will begin over-writing the oldest audio on the card.

Boot Up Mode

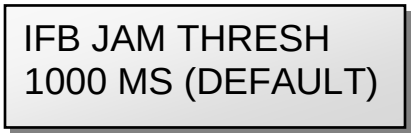
BOOT UP IN
NORMAL MODE

- **REMOTE STANDBY** – The TRX-742 boots up in Low Power Standby mode. The TRX-742 will be waiting for a ZaxNet "*WAKE"* command to come up to full power.
- **STANDBY MODE** – The TRX-742 boots up in Low Power Standby mode. The TRX-742 will be waiting for you to ***Press Menu*** to come up to full power.
- **NORMAL MODE** – The TRX-742 will boot up in Normal mode.

IFB Remote Control- *this menu will not appear if the IFB settings allow the TRX to go into transmit mode.*

This menu turns ON / OFF if the TRX-742 will accept remote control commands via ZaxNet.

IFB Jam Threshold



This menu sets how much the timecode has to jump before a new file is forcibly created.

IMPORTANT: When a new file is created, while a take is in progress, about a half of second of the audio will be lost.

QRX Program

This is used to update the software on a QRX-100.

To Update the QRX Software:

1. With a computer copy the QRX software onto a formatted micro SD card.
2. Place the card in the TRX-742 then power up the TRX-742.
3. Advance to this menu.
4. Press the INC key.
5. The TRX-742 will begin to transmit the software to a QRX-100 that is set to receive the software. The TRX-742 will continually resend the program until you manually stop it.

Phase Invert Channel

This will invert the phase of channel 2 (Right) audio to correct for a phasing issue.
This would only be used if you had a stereo cone attached.

TX Disable

- **Record Only Mode** – This will set the TRX-742 to act as a standalone recorder and will not transmit any RF audio on the UHF band.
- **Normal TX Mode** – This will set the TRX-742 to both transmit RF audio and record on its internal SD card.

Low Battery Stop

This menu sets the amount of time after a low battery warning the TRX-742 will close the current file and stop recording.
This is to prevent possible file corruption if the units powers off and on due to a dead battery.

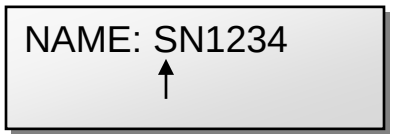
- **NEVER STOP** - the TRX-742 will not stop unless you stop it.
- **Any interval from 1 to 99 minutes** - once the battery indicator starts to blink a low battery warning the TRX-742 will continue to record for the time set in the menu - then it will close the file and stop recording.

Record On Bootup

This menu will determine if the TRX-742 will automatically go into record after the unit boots up.

- **ON** - the TRX-742 start to record after it boots up.
- **OFF** - the TRX-742 will wait for a ZaxNet command, a manual record trigger to start recording.

Name



This menu changes the name of the TRX-742.
The name entered into the unit becomes part of the name of the audio files generated by the unit and is also included in the metadata of the BWF file. Naming the unit aids in identifying the files from several different wireless.

The maximum Name length is 8 characters. You can select any letter or number and can even use spaces.

To set/change the name:

1. Press the ***INC*** or ***DEC*** *key* to change the character in the current position.
2. Press the ***MENU*** *key* to proceed to the next character.
3. When finished, press and hold the ***MENU*** *key* set the name and leave this page or you can cycle the power.

Encryption Menu

This hides the Encryption Menu.

- **HIDDEN** the encryption menu doesn't appear when you cycle through the menu settings.
- **ON** the Encryption will appear.

Encryption Code page

If you set an encryption code the transmitted audio will be encrypted and can only be listened to if the receiver has the matching encryption code entered. When receiving an audio signal and the codes do not match, all that will be heard is white-noise or silence.
These two sets of numbers are formed into a single six-digit encryption code which provides a total of 16,777,216 possible combinations.

To adjust the encryption code

1. Momentarily press the ***MENU*** *key* to advance to the next character.
2. To change the designated character, press the ***INC*** or ***DEC*** *key*.
3. To exit this page, press and hold the ***MENU*** *key* for 1 second.

NOTE: Both of these codes should always be set to **000** for normal un-encrypted operation.

Media

While any size card will work we recommend using a 4GB micro SD card. We also recommend that you buy a brand name card such as Transcend, SanDisk, or Delkin. You should also buy your cards from a reputable dealer because counterfeit cards exist and can cause recording issues.
We also recommend that you test your card before taking them out into the field.

Here is a testing procedure to determine if the card will function correctly:

1. Format the card in the Zaxcom unit.
2. Power cycle the unit.
3. Record at least 20 minutes of audio to a card with no timecode source.
4. Look at the Main Screen it should still be recording in segment #1.

Media Capacity

The TRX can use MiniSD cards, ranging in size from 128 MB to 16 GB. While any size card will work we recommend using 4GB cards.
Available recording times are as follows:

Media Size	Available Recording Time
128 MB	45 minutes
256 MB	1.5 hours
512 MB	3 hours
1 GB	6 hours
2 GB	12 hours
4 GB	24 hours
8 GB	48 hours
16 GB	96 hours

IMPORTANT: The TRX-742 will **NOT** record onto the card if:

- The card was not present when the unit was powered up
- If the card was removed while the power was 'ON'
- If the LOW BATTERY is being displayed.

Recording Format

The media card is formatted using a FAT32 file system. While recording, the unit places all recorded audio in a single file on the media.

The single file generated by the recorder can only be recognized by Zaxcom's ZaxConvert program. Using ZaxConvert will transfer the file to a Broadcast Wave or MP3 file. This utility is available to anyone for free from the Zaxcom website ***http://www.zaxcom.com/software-updates***

Firmware

Each unit is shipped with the latest firmware version installed. As newer firmware becomes available, it can be downloaded from the Zaxcom website:
http://www.zaxcom.com/software-updates
Newer version of Beta software may be found on the Zaxcom Forums:
http://www.zaxcom.com/forum

Each time a unit is powered up, the firmware version number is displayed briefly on the LCD screen. Pressing the ***DEC*** *key* during the boot up will slow down the screen to allow easier viewing of the information.

Updating TRX Firmware

1. Download the firmware from the Zaxcom website and load it onto a formatted card.
2. Insert the card into the TRX transmitter.
3. Simultaneously hold down the ***INC*** and ***DEC*** *keys* while powering up the unit.
4. The screen will display "**BURN ROM**" with the version of firmware you are loading.
5. From power up to "**DONE**" will take about 30 seconds.
6. Upon completion, cycle the power to run on the new version.

WARNING: Do not power down the unit during the upgrade process. Before upgrading the software be sure to insert a fresh set of batteries. If the unit should lose power during the upgrade, it will need to be sent back to Zaxcom for repair.

Updating an ERX with your TRX-742

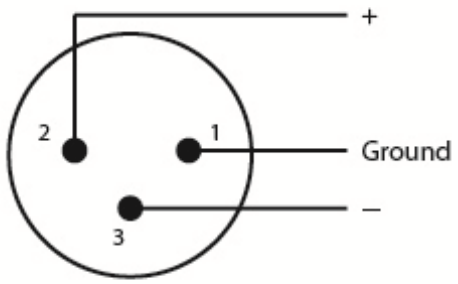
Your TRX-742 can be used to update the software in a Zaxcom ERX receiver. Your TRX must be running version 7.02 or higher to do so.

1. Format a card in your TRX.
2. With a computer perform the following:
   A. Delete the “DELETE.ME” file on the card
   B. Download the ERX firmware “ERX-XXX.bin” from the Zaxcom website and load it onto a card formatted by the TRX.
3. Insert the card into the TRX.
4. Check that the ERX is set to the same ZaxNet frequency that the TRX is set to. Check that the GROUP ID is set the same in both the TRX and ERX. And make sure encryption is shut off.
5. Boot up the ERX while holding the Menu key to get to the ERX EXTENDED menu.
6. On the ERX Press menu 5 times till you see the software update page.
7. Press the INC key on the ERX 5 times till you see WAITING FOR PROGRAM.
8. Power up the TRX.
9. If your TRX is running software version 8.0 or higher in the EXTENDED Menu shut off RX to TX mode.
10. Go to the LOCK page and press down 6 times quickly to get to the FACTORY Menu.
11. Press the MENU key once to get to the IFBMODE page.
12. Press the INC key 3 times till you see IFBMODE 3 TX.
13. Press MENU 3 times until you see SEND ERX PROG FILE.
14. Press the INC key to trigger the update process.
15. The ERX should indicate its progress after a few seconds.
16. When the ERX has been updated the screen will display “SUCCESS”.

WARNING DO NOT LEAVE THE TRX IN IFBMODE 3 TX.
If you do the TRX may not boot up when power cycled. If this happens hold the MENU and DOWN keys while booting to force the IFB to OFF. Then go to the IFB Mode in the factory menu to set IFB mode to IFBMODE 1 RX. Though as of version 8.19 this should no longer be an issue.

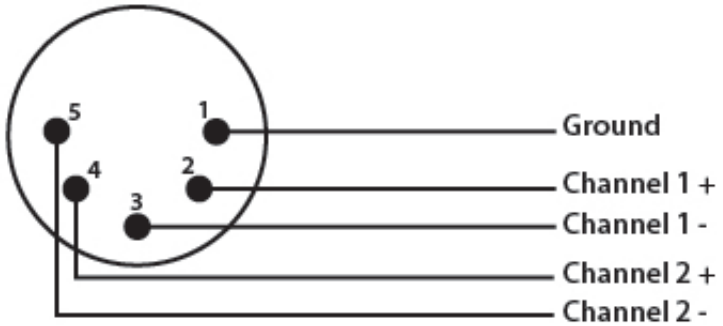
Wiring Configurations

3-Pin Male XLR (rear view)



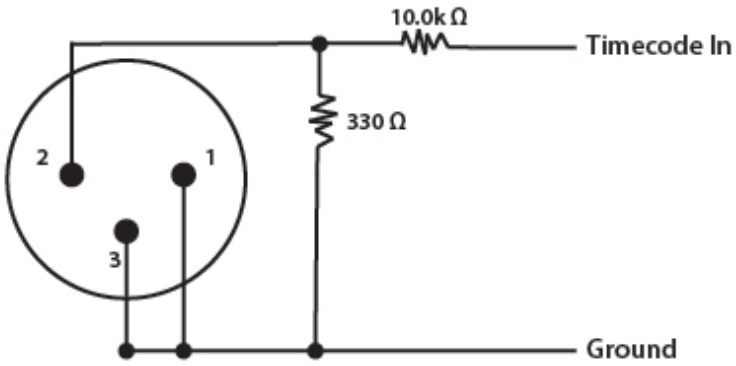
Balanced audio in to TRX742

5-Pin Male XLR (rear view)



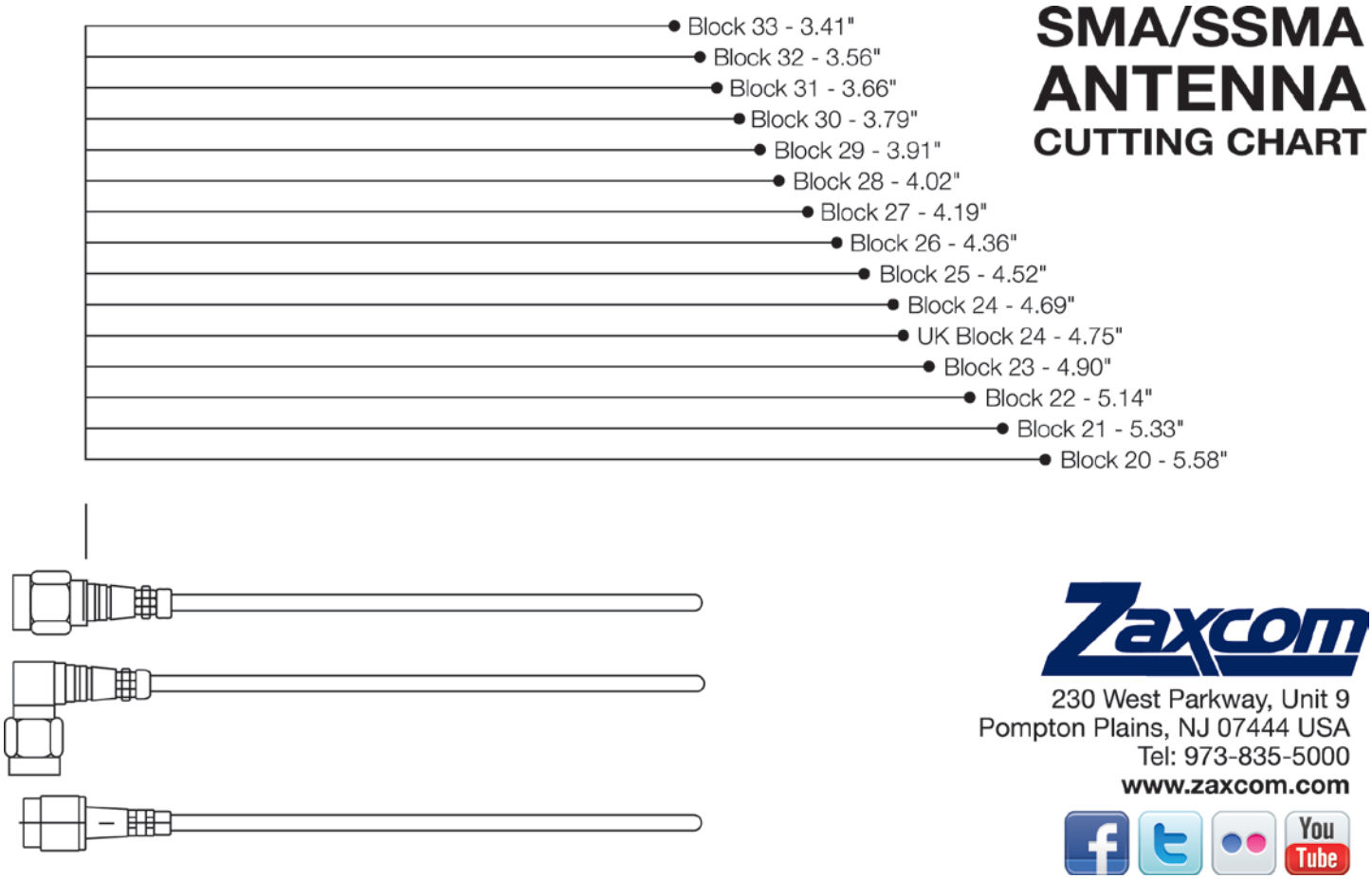
Stereo input to TRX742

3-Pin Male XLR (rear view)



Unbalanced timecode in to TRX742

Antenna Cutting Chart



Zaxcom
230 West Parkway, Unit 9
Pompton Plains, NJ 07444 USA
Tel: 973-835-5000
www.zaxcom.com

Operating Frequencies

ZaxNet Remote Control and Timecode

2.403 to 2.475 GHz

UHF Audio

Block	Frequency Range	TV Channels
20	518.0 to 542.0	22 to 25
21	536.0 to 572.0	25 to 30
22	560.0 to 590.0	29 to 33
23	590.0 to 614.0	34 to 37
24	614.0 to 644.0	38 to 42
25	638.0 to 668.0	42 to 46
26	662.0 to 692.0	46 to 50
27	686.0 to 722.0*	50 to 55
28	722.0 to 746.0*	56 to 59
29	740.0 to 770.0*	59 to 63
30	764.0 to 794.0*	63 to 67
31	794.0 to 818.0*	68 to 71
32	818.0 to 842.0	72 to 75
33	860.0 to 872.0	79 to 80
UK	606.0 to 636.0	

**As of 12 June 2009, the USA has phased out analog television. As a result frequencies between 698.0 and 806.0 MHz will no longer available for use in the USA.*
As of 31 August 2011, Canada has phased out analog television. As a result, frequencies between 698.0 and 806.0 MHz are no longer available for use in Canada.

Specifications

Transmitter

Power output: 25 / 50 / 125 mW – Software Selectable (10 mW special order)
RF Modulation: Proprietary Digital Method
RF Frequency Range: 518.0 to 872 MHz (typical blocks are 35 MHz wide)
RF Frequency Step: 100 KHz
RF Bandwidth: 200 KHz
Channel Separation: 500 KHz (700 KHz recommended)
Antenna Connector: 50 Ω SMA Female
Emission Designator: 180 KV2E
FCC Part: 75.861

Transmitter Audio

A-D Dynamic Range: 127dB
Analog distortion .0035%
A-D system: NeverClip Zaxcom proprietary (Pat Pending)
Frequency Response: Mode 0: 20 Hz to 16 kHz / T & M Mode 0.2 Hz to 16 kHz
System Group Delay: 3.6 mS
Mic Connector: 3-Pin or 5-Pin XLR
Analog Mic Power: 48 V Phantom (10 mA max)
Digital Mic Power: 10 V AES42 compatible (200 mA max)
Mic impedance: 4.7 k Ω
ADC Bit-Depth: 24 Bits
Audio Interfaces: Balanced analog mono, balanced stereo, AES42, AES

Time code Reader/Generator

Clock Accuracy: 1.54PPM (1 Frame Out in 6 Hours)
Timecode Type: SMPTE
Timecode Frame Rates: 23.98, 24, 25, 29.97NDF, 29.97DF, 30NDF, 30DF

Recording

Media: MicroSD Card (Flash Memory)
File Format: .ZAX
Recording Time: 96 Hours (16 GB card)

2.4 GHz ZaxNet Receiver

RF Frequency Range: 2.403 to 2.475 GHz
RF Modulation: Digital Spread Spectrum
RF Frequency Step: 0.001 GHz (1 MHz)
RF Bandwidth: 1 MHz
Channel Separation: 2 MHz
Sensitivity: -96 dBm

Physical

Weight: 7.5 oz without batteries
Dimensions (H x W x D): 5 cm x 11.5 cm x 4 cm
Display: Graphic LCD

Battery

Type: 3 AA cells - Battery Life is dependent on Battery type and microphone power requirements

All Specifications subject to change without notice
Zaxcom Digital Wireless is protected under patent #'s: 7,711,443 & 7,929,902

Product Support

Register your product with Zaxcom: ***http://www.zaxcom.com/product-registration***
Download the latest **Firmware** from: ***http://www.zaxcom.com/software-updates***
Download the latest **User Manuals** from: ***http://www.zaxcom.com/instruction-manuals***
Submit Technical Questions at: ***http://www.zaxcom.com/submit-a-technical-question***
Submit information for **Repair Services** at: ***http://www.zaxcom.com/repairs***
Join the **Zaxcom Forum** at: ***http://www.zaxcom.com/forum***

Consumer Alert

Most users do not need a license to operate a wireless microphone system. Nevertheless, operating a microphone system without a license is subject to certain restrictions:

- the system may not cause harmful interference,
- it must operate at a low power level (not in excess of 50 milliwatts),
- it has no protection from interference received from any other device.

Purchasers should also be aware that the FCC is currently evaluating the use of wireless microphone systems, and these rules are subject to change. For more information, call the FCC at 1-888-CALL-FCC (TTY: 1-888-TELL-FCC) or visit the FCC's wireless microphone website at: ***www.fcc.gov/cgb/wirelessmicrophones.*** To operate wireless microphone systems transmitting with greater than 50mW of radiated power, you must qualify as a Part 74 user and be licensed.

This alert does **NOT** apply to Part 74 users

Zaxcom Warranty Policy and Limitations

Zaxcom Inc. values your business and always attempts to provide you with the very best service.

No limited warranty is provided by Zaxcom unless your **TRX-742** ("Product") was purchased from an authorized distributer or authorized reseller. Distributers may sell Product to resellers who then sell Product to end users. Please see below for warranty information or obtaining service. No warranty service is provided unless the Product is returned to Zaxcom Inc. or a Zaxcom dealer in the region where the Product was first shipped by Zaxcom.

Warranty Policy

The Product carries a Standard Warranty Period of one (1) year.

NOTE: The warranty period commences from the date of delivery from the Zaxcom dealer or reseller to the end user.

There are no warranties which extend beyond the face of the Zaxcom limited warranty. Zaxcom disclaims all other warranties, express or implied, regarding the Product, including any implied warranties of merchantability, fitness for a particular purpose or non-infringement. In the United States, some laws do not allow the exclusion of the implied warranties.

Troubleshooting & Repair Services

No Product should be returned to Zaxcom without first going through some basic troubleshooting steps with the dealer you purchased your gear from.

To return a product for repair service, go to the Zaxcom Repair Services page (***http://www.zaxcom.com/repairs***) and fill in your information; there is no need to call the factory for an RMA. Then send your item(s) securely packed (in the original packaging or a suitable substitute) to the address that was returned on the Repair Services page. Insure the package, as we cannot be held responsible for what the shipper does.

Zaxcom will return the warranty repaired item(s) via two-day delivery within the United States at their discretion. If overnight service is required, a FedEx or UPS account number must be provided to Zaxcom to cover the shipping charges.

*Please note a great resource to troubleshoot your gear is the Zaxcom Forum: ***http://www.zaxcom.com/forum***.

Warranty Limitations

Zaxcom's limited warranty provides that, subject to the following limitations, each Product will be free from defects in material and workmanship and will conform to Zaxcom's specification for the particular Product.

Limitation of Remedies

Your exclusive remedy for any defective Product is limited to the repair or replacement of the defective Product.

Zaxcom may elect which remedy or combination of remedies to provide in its sole discretion. Zaxcom shall have a reasonable time after determining that a defective Product exists to repair or replace a defective Product. Zaxcom's replacement Product under its limited warranty will be manufactured from new and serviceable used parts. Zaxcom's warranty applies to repaired or replaced Product for the balance of the applicable period of the original warranty or thirty days from the date of shipment of a repaired or replaced Product, whichever is longer.

Limitation of Damages

Zaxcom's entire liability for any defective Product shall, in no event, exceed the purchase price for the defective Product. This limitation applies even if Zaxcom cannot or does not repair or replace any defective Product and your exclusive remedy fails of its essential purpose.

No Consequential or Other Damages

Zaxcom has no liability for general, consequential, incidental or special damages. These include loss of recorded data, the cost of recovery of lost data, lost profits and the cost of the installation or removal of any Product, the installation of replacement Product, and any inspection, testing or redesign caused by any defect or by the repair or replacement of Product arising from a defect in any Product.

In the United States, some states do not allow exclusion or limitation of incidental or consequential damages, so the limitations above may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Your Use of the Product

Zaxcom will have no liability for any Product returned if Zaxcom determines that:

- The Product was stolen.
- The asserted defect:
  1. Is not present,
  2. Cannot reasonably be fixed because of damage occurring when the Product is in the possession of someone other than Zaxcom, or
  3. Is attributable to misuse, improper installation, alteration, including removing or obliterating labels and opening or removing external covers (unless authorized to do so by Zaxcom or an authorized Service Center), accident or mishandling while in the possession of someone other than Zaxcom.
- The Product was not sold to you as new.

Additional Limitations on Warranty

Zaxcom's warranty does not cover Product, which has been received improperly packaged, altered or physically abused.